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|-----------------|-------------|----------------------|---------------------|------------------|
| 10/750,761      | 01/05/2004  | Yosef Kamir          | 2786/3              | 1676             |

7590 06/30/2004

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| EXAMINER |
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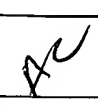
HINZE, LEO T

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| ART UNIT | PAPER NUMBER |
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2854

DATE MAILED: 06/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                                      |                                     |   |
|------------------------------|--------------------------------------|-------------------------------------|---|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/750,761 | <b>Applicant(s)</b><br>KAMIR ET AL. |   |
|                              | <b>Examiner</b><br>Leo T. Hinze      | <b>Art Unit</b><br>2854             |  |

-- **Th MAILING DATE of this communication appears on th cover sh t with th correspondenc address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 05 January 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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## DETAILED ACTION

### *Double Patenting*

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1-26 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-22 of Kamir, et al. U.S. Patent No. 6,686,941. Although the conflicting claims are not identical, they are not patentably distinct from each other

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because the claims in the instant application contain the same subject matter but with a broader scope than the claims in US 6,686,941.

Kamir et al. teach:

- Claim 1: A display system comprising: at least one display screen, printing means for transferring color images on to said at least one display screen; erasing means for erasing said color images from said at least one display screen; and drive means connected to said at least one display screen for operatingly moving said at least one display screen (Kamir, claim 1);
- Claim 2: wherein said drive means moves said at least one display screen from a first printing position to a second viewing position (Kamir, claim 1);
- Claim 3: an interface control unit coupled to at least said at least one display screen; and processing means communicating with said interface control unit to control the display of said images (Kamir, claim 2);
- Claim 4: wherein each of said at least one display screen comprises a plurality of display screens, each of which displays a separate color separation of said image (Kamir, claim 3);
- Claim 5: a dual purpose screen having a substantially white reflective diffusing portion and a substantially transparent portion (Kamir, claim 4);
- Claim 6: a substantially transparent protective screen placed in front of said at least one display screen (Kamir, claim 5);

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- Claim 7: wherein each of said plurality of display screens comprises an endless dielectric imaging belt (Kamir, claim 18);
- Claim 8: wherein each of said separate color separation images is a digitized version for one of each of the four color separations of cyan, magenta, yellow and black (C, M, Y and K) (Kamir, claim 6);
- Claim 9: a separate toner reservoir for each of said separate color separation images; and writing means for applying toner from each of said separate toner reservoir onto each of said at least one display screen (Kamir, claim 7);
- Claim 10: wherein said erasing means comprises: static eliminators for cleaning and erasing the toner from said at least one display screen; and at least one receptacle for said at least one display screen for receiving and storing the removed toner (Kamir, claim 19);
- Claim 11: wherein said static eliminators comprise one of a group of eliminators including active hot static eliminators; active shockless static eliminators and passive static eliminators (Kamir, claim 20);
- Claim 12: pumping means to transfer toner from each of said at least one receptacle to the corresponding toner reservoir (Kamir, claim 9);
- Claim 13: wherein said drive means is connected to said dual purpose screen for operatingly moving said dual purpose screen from a first position wherein said substantially white reflective diffusing portion is placed behind said at least one display screen to a second position wherein said substantially transparent portion is placed behind said at least one display screen (Kamir, claim 12);

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- Claim 14: wherein said interface control unit is coupled to said drive means (Kamir, claim 15);
- Claim 15: A method for producing at least one display image onto a screen, said method comprising the steps of: preparing said at least one display image; communicating said at least one display image to an interface and control unit; printing said prepared at least one display image on to at least one display screen; and moving said at least one display screen into position for viewing (Kamir, claim 1);
- Claim 16: erasing said displayed image (Kamir, claim 1);
- Claim 17: preparing a replacement display image; and communicating said replacement display image to said interface and control unit (Kamir, claims 1 and 2);
- Claim 18: concurrently printing said replacement display image while a previous, displayed image is being erased (Kamir, claims 1 and 2);
- Claim 19: printing said replacement display image on a separate part of said at least one display screen while said first image is being displayed (Kamir, claims 1 and 2);
- Claim 20: erasing a first image and concurrently printing a replacement display image on a separate part of said at least one display screen while another image is being displayed (Kamir, claims 1 and 2);
- Claim 21: replacing said first image with said replacement display image (Kamir, claims 1 and 2);

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- Claim 22: moving a dual purpose screen having a substantially white reflective diffusing portion and a substantially transparent portion behind said at least one display screen (Kamir, claim 13);
- Claim 23: activating said dual purpose screen to move said substantially transparent portion behind said at least one display screen whenever the amount of light falls below a predetermined level (Kamir, claim 13);
- Claim 24: wherein each of said at least one display screen comprises a plurality of display screens each of which displays a separate color separation of said image (Kamir, claim 3);
- Claim 25: wherein said printing step comprises the steps of: storing toner for each of said separate color separation images in separate reservoirs; and applying toner from each of said separate toner reservoirs onto each of said corresponding plurality of display screens (Kamir, claim 7);
- Claim 26: wherein said step of erasing said displayed image comprises the steps of: removing said toner from each of said plurality of display screens; and storing said removed toner for reuse in said separate toner reservoirs (Kamir, claim 8).

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-4, 8-9, 14-21, and 24-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Dalal et al., US 5,999,201

Regarding claim 1, Dalal et al. teach a display system comprising: at least one display screen (100, col. 2, line 59), printing means (20, 103, Fig. 1) for transferring color images on to said at least one display screen; erasing means (104, Fig. 1) for erasing said color images from said at least one display screen; and drive means connected to said at least one display screen for operatingly moving (rotating drum 100) said at least one display screen.

Regarding claim 2, Dalal et al. also teach wherein said drive means moves said at least one display screen from a first printing position to a second viewing position. As the drum 100 rotates, the image changes position.

Regarding claim 3, Dalal et al. also teach an interface control unit (44, Fig. 1) coupled to at least said at least one display screen; and processing means communicating with said interface control unit to control the display of said images.

Regarding claim 4, Dalal et al. also teach wherein each of said at least one display screen comprises a plurality of display screens (multiple drums, Fig. 1), each of which displays a separate color separation of said image (col. 2, lines 49-50).

Regarding claim 8, Dalal et al. also teach wherein each of said separate color separation images is a digitized version for one of each of the four color separations of cyan, magenta, yellow and black (C, M, Y and K) (col. 2, lines 49-50).



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Regarding claim 9, Dalal et al. also teach wherein said printing means comprises: a separate toner reservoir (103, Fig. 1) for each of said separate color separation images; and writing means for applying toner from each of said separate toner reservoir onto each of said at least one display screen (103, Fig. 1).

Regarding claim 14, Dalal et al. also teach wherein said interface control unit is coupled to said drive means (44 “generates a color image”, and therefore controls the drive means).

Regarding claim 15 Dalal et al. teach a method for producing at least one display image onto a screen (100, col. 2, line 59), said method comprising the steps of: preparing said at least one display image (“44 generates a color image...”, col. 2, lines 46); communicating said at least one display image to an interface and control unit; printing said prepared at least one display image on to at least one display screen; and moving said at least one display screen into position for viewing (col. 2, lines 58-67).

Regarding claim 16, Dalal et al. also teach the step of erasing said displayed image (col. 3, line 21).

Regarding claim 17, Dalal et al. also teach the steps of: preparing a replacement display image; and communicating said replacement display image to said interface and control unit (as many images as desired can be formed until the toner runs out).

Regarding claim 18, Dalal et al. also teach the step of concurrently printing said replacement display image while a previous, displayed image is being erased (col. 3, lines 17-22).

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Regarding claim 19, Dalal et al. also teach the step of printing said replacement display image on a separate part of said at least one display screen while said first image is being displayed (drum 100 can rotate continuously, and process or printing, displaying, and erasing continues)

Regarding claim 20, Dalal et al. also teach the step of erasing a first image and concurrently printing a replacement display image on a separate part of said at least one display screen while another image is being displayed (col. 3, lines 17-22).

Regarding claim 21, Dalal et al. also teach the step of replacing said first image with said replacement display image (as many different images as desired can be printed).

Regarding claim 24, Dalal et al. also teach wherein each of said at least one display screen comprises a plurality of display screens each of which displays a separate color separation of said image (col. 2, lines 48-50).

Regarding claim 25, Dalal et al. also teach wherein said printing step comprises the steps of: storing toner for each of said separate color separation images in separate reservoirs; and applying toner from each of said separate toner reservoirs onto each of said corresponding plurality of display screens (col. 3, lines 6-7).

5. Claims 1-2, 6, and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Konishi et al., US 4,720,707.

Regarding claim 1, Konishi et al. teach as a display system comprising: at least one display screen (109A, Fig. 5), printing means (115, 134, Fig. 3) for transferring color images on to said at least one display screen; erasing (115, Fig. 5) means for erasing said color images from

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said at least one display screen; and drive means (105 A, Fig. 5) connected to said at least one display screen for operatingly moving said at least one display screen.

Regarding claim 2, Konishi et al. also teach wherein said drive means moves said at least one display screen from a first printing position to a second viewing position ("belt rotated", col. 6, lines 60-62).

Regarding claim 6, Konishi et al. also teach a substantially transparent protective screen (104, Fig. 5) placed in front of said at least one display screen.

Regarding claim 15, Konishi et al. also teach a method for producing at least one display image onto a screen, said method comprising the steps of: preparing said at least one display image; communicating said at least one display image to an interface and control unit; printing said prepared at least one display image on to at least one display screen; and moving said at least one display screen into position for viewing (col. 2, lines 15-40).

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various

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claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dalal et al. in view of Zur, US 5,289, 214.

Dalal et al. teach all that is claimed as discussed in the rejection of claims 1 and 4 above, including that the display screen can be a belt or drum (col. 2, lines 58-59).

Dalal et al. do not teach wherein each of said plurality of display screens comprises an endless dielectric imaging belt.

Zur teaches an apparatus for information transfer including a dielectric element and generally non-image-wise charge service, including using a dielectric element (80, Fig. 6A) as a rewritable image display device (col. 7, line 50 through col. 8, line 40). Zur also teaches that dielectrics and photoconductors are exchangeable equivalents (col. 2, lines 8-10).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Dalal et al. to use a dielectric member instead of a photoconductive member for writing images, because Zur teaches that dielectric and photoconductive members are equally acceptable as display screens.

9. Claims 10-12 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dalal et al. in view of Suzuki et al., US 6,112,046.

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Dalal et al. teach all that is claimed as discussed in the rejection of claims 1 and 25 above, including:

- Claim 10: wherein said erasing means comprises: static eliminators for cleaning and erasing the toner from said at least one display screen (104, Fig. 1);
- Claim 11: wherein said static eliminators comprise one of a group of eliminators including; active shockless static eliminators (104 “actively” removes electrostatic image from drum 100);
- Claim 26: wherein said step of erasing said displayed image comprises the steps of: removing said toner from each of said plurality of display screens (col. 3, lines 19-21).

Dalal et al. do not teach:

- Claim 10: at least one receptacle for said at least one display screen for receiving and storing the removed toner;
- Claim 12: pumping means to transfer toner from each of said at least one receptacle to the corresponding toner reservoir.
- Claim 26: storing said removed toner for reuse in said separate toner reservoirs.

Suzuki et al. teach an image forming apparatus having recycling of residual toner, including:

- Claim 10: at least one receptacle for said at least one display screen for receiving and storing the removed toner (6, Fig. 3);
- Claim 12: pumping means (20, Fig. 2) to transfer toner from each of said at least one receptacle to the corresponding toner reservoir (4, Fig. 3).

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- Claim 26: storing said removed toner for reuse in said separate toner reservoirs (4, Fig. 3);
- That such a toner recycling apparatus provides a small size, low cost image forming apparatus (col. 2, lines 55-57).

Regarding claims 10, 12, and 26, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Dalal et al. to store removed toner for reuse, and to include a pumping means to return stored toner to the toner reservoir, because Suzuki et al. teach a recycling apparatus that provides for a small size, low cost image forming apparatus, and one having ordinary skill in the art would recognize the advantages of recycling toner, such as saving money by reusing toner and eliminating the need for storage and disposal of used toner.

### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Tomida et al., US 6,652,086, Carau, Sr., US 6,318,825, Hori et al., US 6,283,567, Ariyama, US 5,957,700, Maruyama et al., US 5,432,534, Watanabe et al., US 5,231,505, Hashimoto et al., US 4,723,138 Chu et al., US 20040075820 A1, and Hoberock et al., US 20020196482 A1, each teach image display apparatus and methods having obvious similarities to the instant application.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leo T. Hinze whose telephone number is (571) 272-2167. The examiner can normally be reached on M-F 8:00-4:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Hirshfeld can be reached on (571) 272-2168. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Leo T. Hinze  
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28 June, 2004



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